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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/688,922

10/21/2003

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EXAMINER

TRAN, NHAN T

ART UNIT

PAPER NUMBER

2622

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/688,922	EZAWA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	NHAN T. TRAN	2622	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 July 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 15-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/8/2008 has been entered.

### ***Response to Arguments***

2. Applicant's arguments filed 7/8/2008 have been fully considered but they are not persuasive.

The Applicants argue that Sunao fails to disclose all of the shutter blades that are disposed between the lens-side frame and the image pick-up unit-side frame, the portion of the image pick-up unit that opposes the shutter unit is located between all of the shutter blades and the photoelectric converter, and protruding into the second opening part of the image pick-up unit-side frame as required in the independent claim 15 because the shutter unit 2 in Sunao must be in an open position to accommodate the image pick-up unit consisting of sensor 30, holder 19 and filter group 18. (Remarks, pages 4-5).

In response, the Examiner understands the Applicants' arguments but respectfully disagrees with the Applicants' assessment of the claim.

Since the claim does not require all of the shutter blades to be in extended positions to block the light *or* retracted positions to allow the light to reach the image sensing surface, the broad interpretation of the claim reads on the disclosure of Sunao as follows: If viewed from diagonal directions in Fig. 8 when all of the shutter blades are in retracted positions, the portion of the image pick-up unit (the front portion 19 of the image pick-up unit that protrudes into a portion of the shutter unit 2) is located between all of the shutter blades and the photoelectric converter (30). It is also clear that all of the shutter blades are disposed between the lens-side frame and the image pick-up side frame (at element 41) since all of the shutter blades are disposed within the shutter unit 2.

The Examiner notes that the claim does not require the portion of the image pick-up unit that opposes the shutter unit is located between all of the shutter blades and the photoelectric converter when all of the shutter blades are in extended positions to block the light from reaching the photoelectric converter. This feature is argued but not in the claim.

In view of the above, the rejection is maintained.

### ***Claim Objections***

3. Claim 15 is objected to because of the recitations of "pick up unit" in line 8 and "the shutter curtain" in line 12 of this claim. These should be corrected to read as --

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**pick-up unit** -- and -- **the plurality of shutter blades** --, respectively. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 15, 16, 18, 19, 21 & 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Kurahashi Sunao (JP 06-308576, submitted in the IDS filed 10/16/2007).

Regarding claim 15, Sunao discloses an electronic camera (a video still camera shown in Figs. 5-8 and paragraphs [0009] and [0014]) comprising:

an image pick-up unit (combination of holder 19 and image sensor 30) disposed on an optical path of light that enters the electronic camera, the image pick-up unit including a photoelectric converter (image sensor 30) that receives the light (see Fig. 8 and paragraph [0021]); and

a shutter unit (2 in Fig. 8) disposed on the optical path between the photoelectric converter (30) and a portion (optical system) of the camera through which the light enters the camera, the shutter unit housing a plurality of shutter blades (the plurality of shutter blades are indicated by point shutter curtains 2a and back curtains as described in Figs. 1, 3 & 8 and paragraph [0013]);

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a portion of the image pick-up unit that opposes the shutter unit protruding into a portion of the shutter unit (see Fig. 8 in which the front portion of the image pick-up unit 19 protrudes into the a portion of the shutter unit 2),

wherein the shutter unit (2) includes a lens-side frame located on one side of the plurality of shutter blades that faces away from the image pick-up unit (Fig. 8 shows a front frame of the shutter unit 2 located at the side of lens system and faces away from the image pick-up unit 19), the lens-side frame has a first opening part (a front opening of the shutter unit on the lens side) to transmit the light to the shutter [curtain] blades, and an image pick-up unit-side frame on other side of the shutter unit that opposes the image pick-up unit (Fig. 8 shows a rear frame at element 41 of the shutter unit 2 located at the image pick-up unit 19), the image pick-up unit-side frame has a second opening part (a rear opening part defined by the window 41 in Figs. 8 & 2) to transmit the light to the photoelectric converter (30), wherein all of the shutter blades are disposed between the lens-side frame and the image pick-up unit-side frame (see Figs. 2 & 8 in which all of the shutter blades are located within the shutter unit space 2 in view of Fig. 8), the portion of the image pick-up unit (front portion of 19) that opposes the shutter unit is located between all of the shutter blades and the photoelectric converter (30), and protruding into the second opening part of the image pick-up unit-side frame (see Fig. 8, note that the shutter blades are shown as thick black portions within the shutter unit 2).

Regarding claim 16, Sunao also discloses that the image pick-up unit (19, 30) that opposes the shutter unit (2) has a filter (filter group 18 including an optical low pass

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filter and an IR cut-off filter held by the holder 19 shown in Fig. 5), the filter located between all of the shutter blades and the photoelectric converter, and the filter protrudes into the second opening part of the image pick-up unit-side frame (see Figs. 5 & 8 and paragraph [0015]).

Regarding claim 18, as seen from Figs. 1-4 of Sunao, the plurality of shutter blades move at approximately a right angle (up and down movement) to the optical path of the light, and the shutter unit (2) is disposed at an angle (a right angle) in a main camera body of the electronic camera so that, when the shutter blades are in a closed state (see Fig. 3), a distance between each of the respective shutter blades and the image pick-up unit is *substantially* equal (note that since the shutter blades are closely stacked together, the distance from each blade to the image sensor 30 is substantially equal).

Regarding claim 19, Sunao shows in Fig. 8 that the first opening part (the front opening part of the shutter unit 2) is formed smaller than a cross-section of the portion of the image pick-up unit (the cross section includes section of the holder 19) that opposes the shutter unit, and the plurality of shutter blades have a size corresponding to the first opening part (Figs. 1 & 3).

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Regarding claim 21, also disclosed by Sunao is that the portion of the image pick-up unit (19, 30) that opposes the shutter unit is in contact with the shutter unit (2) (see Fig. 8).

Regarding claim 22, Sunao further discloses a resilient member (spring 31 in Fig. 8) that presses the image pick-up unit into contact with the shutter unit (see paragraph [0021]).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kurahashi Sunao (JP 06-308576) in view of Haraguchi Shosuke (JP 07098481).

Regarding claim 17, although Sunao discloses that the shutter blades move at approximately at a right angle to the optical path of the light and the blades are stacked together as shown in Figs. 1, 3 & 8, it is not clear in Sunao that a shutter blade that moves by a largest amount is disposed farther from the photoelectric converter than other ones of the shutter blades.



However, such arrangement of shutter blades are well practiced by one skilled in the art, and is taught by Shosuke in Fig. 6, paragraphs [0029]-[0031], wherein the shutter blade (13a) that extends downward from an upper portion of a shutter unit moves by a largest amount of that group of blades and disposed farther from the image focal plane of a sensor (102). Such configuration would be advantageous in that interference among shutter blades as well as between the shutter blades and focal plane surface of the sensor would be avoided.

Therefore, it would have been obvious to one of ordinary skill in the art to configure the shutter unit in Sunao in view of Shosuke such that the shutter blade that moves by a largest amount is disposed farther from the photoelectric converter than other ones of the shutter blades so as to avoid interference among the shutter blades as well as between the shutter blades and focal plane surface of the image pick-up unit.

6. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kurahashi Sunao (JP 06-308576) in view of Ishiguro (US 5,483,284).

Regarding claim 20, Sunao does not explicitly disclose that the second opening part is formed larger than the first opening part and larger than the cross-section of the portion of the image pick-up unit that opposes the shutter unit.

However, as taught by Ishiguro in Fig. 1, a rear opening (1A) of shutter unit (21) is larger *slightly* larger than a front opening (the opening that is defined by the window of low pass filter 22) and larger than a cross section of the image sensor (8). It would be

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advantageous in that a large rear opening of the shutter unit would ensure sufficient incident light to reach to the image sensor and also reduce material for constructing the frame structure.

Therefore, it would have been obvious to one of ordinary skill in the art to modify the electronic camera in Sunao such that the second opening part is formed larger than the first opening part and larger than the cross-section of the portion of the image pick-up unit that opposes the shutter unit for ensuring sufficient incident light to reach to the image sensor and also for reducing material for constructing the frame structure.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NHAN T. TRAN whose telephone number is (571)272-7371. The examiner can normally be reached on Monday - Friday, 8:00am - 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on (571) 272-7564. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Nhan T. Tran/  
Primary Examiner, Art Unit 2622